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(54) **HINGE MECHANISM OF FOLDABLE DEVICE, AND FOLDABLE DEVICE PROVIDED WITH HINGE MECHANISM**

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(58) **Field of Classification Search** 361/749, 361/683, 755; 455/575.1, 575.3, 90.3; 439/31; 16/354, 221

See application file for complete search history.

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(57) **ABSTRACT**

A hinge mechanism (20) of a foldable device (1) for foldably connecting one end parts of a pair of device cases to each other, comprises a first frame (21) having first and second arm pieces (22, 24), a second frame (41) having third and fourth arm pieces (42, 44), and a third frame (30) having first and second connection pieces (32, 33) with first to fourth joining parts (34) to (37). The first to fourth arm pieces are rotatably connected to the first to fourth joining parts to form first to fourth connection parts (101) to (104), and drive mechanisms (50) and link mechanisms are formed in the first to fourth connection parts. When the first frame is rotated in one direction relative to the third frame, the second frame is rotated by the same angle as the rotated angle of the first frame in the opposite direction of the third frame. Thus, the hinge mechanism of the foldable device can stably fold the device cases without producing a displacement between both housings thereof when the device cases are folded by providing different axes in the device cases. Furthermore, a foldable device having the hinge mechanism can be provided.

28 Claims, 18 Drawing Sheets

